Original Research

Factors Affecting Rural Women's Participation in Non-farm Activity in Western Ethiopia: Empirical Evidence in Horo Guduru Wollega zone

Wakuma Dufera[1]*, Amsalu Bedemo[2] & Temesgen Kebede[3]

[1]Department of Agricultural Economics, Salale University, Ethiopia
[2]School of Policy Studies, Ethiopian Civil Service University, Ethiopia
[3]Department of Economics, College of Business and Economics, Haramaya University, Ethiopia

Abstract	Article Information
When more women participate in the workforce, household incomes rise dramatically. The main objective of this study was to determine the factors affecting women's engagement in non-farm activities. The results of the study show that a number of factors, including age, family size, land size, ownership of household property, non-farm training, credit availability, membership in idir, women's involvement in local community affairs, and distance from the market location, affect women's involvement in non-agricultural activities. To analyse the data, the researcher used the binary logit model. The following factors determine women's involvement in non-agricultural activities: distance from the market, size of family, and land size have a negative influence, whereas the other factors have a positive influence. Socioeconomic factors, such as the low percentage of women in education and the antiquated perceptions of women held by society, have also been acknowledged as important problems. The study found that cooperation between the government, non-governmental organisations, and various religious leaders was necessary to lessen the socioeconomic burden on women. In order to pinpoint the problems that women encounter, university academics should work with the women's and children's affairs office in the study area.	 *Ccorresponding Author: Wakuma Dufera E-mail: wakuma.dufera273@gmail.com*

INTRODUCTION

In both agricultural and non-agricultural endeavors, rural women play a significant role. Researchers Alemu et al. (2021), Endiris et al. (2021), and Bayu (2021) claim that women who work for themselves, free from spouses and social pressure, provide more money for their families. The reasons why women participate in non-farm activities are not exclusive of one another; on the contrary, they support one another. Women are more productive and self-assured when the gender gap in assets is closed, allowing them to own and manage productive assets. In both agricultural and non-agricultural pursuits, a woman who is given the authority to choose what to grow and what (and how much) inputs

to apply on her plot will yield greater productivity. Because she can tend to her own physical and mental needs, an empowered woman will also be better equipped to safeguard the health and nutrition of her children (Batool et al., 2017).

Women succeed side by side because they participate in political, administrative, agricultural, and non-agricultural occupations. It is possible to enhance family life, elevate the standard of living for rural families, and advance the nation's economy overall if all these initiatives are carried out in a way that encourages women's participation. However, if more women participate in both formal and informal schooling, they won't even think twice about standing up for their rights and nature through empowerment and engagement in non-agricultural pursuits.

However, women have very little say in how resources are allocated in rural families. The pressure on women was the cause of this. However, the activities assigned to women were restricted to domestic duties including food preparation, child care, livestock observation, and field crop cultivation. Furthermore, women are not allowed to work in administration, politics, or social organisations (Nelson & Consoli, 2010). Non-agricultural activities in rural areas cannot succeed without the involvement of all men or just a portion of the population. Only when women and men have equal decision-making authority will non-agricultural endeavors succeed (Neglo et al, 2021).This study set out to characterise women's involvement in non-farm activities within the research region.

Most rural women lack the authority to decide on household matters. This is because defying societal bias, gender conventions, and men's supremacy requires knowledge. Women handle the majority of home chores in rural areas. Because of this, women are less able to work and eventually become reliant on their husbands' income (Ahmed & Mesfin, 2017).

Spouses are not allowed to participate in high-earning activities for women. Due to regional customs, they are seen as housewives, and the single partner must engage in high-earning pursuits (Yenesew et al., 2015). Because of this, some women work in wage labour, petty trade, hairdressing, animal and fruit sales, and poultry companies (Gao et al., 1995; Alemu et al., 2021).

Women's involvement in non-farm pursuits is essential to their households' financial success. Contrarily, Ethiopian women do not enjoy economic independence, especially in rural areas. Because they depend on their husbands' income, women usually defy the decisions made by their male guardians (Asfaw, 2022). Despite the fact that rural women are typically hidden, mute, and undervalued, they represent one of the most potent untapped natural resources in the world (Challa et al., 2020).

The last 20 years have seen dynamic changes in the development process that haven't diminished women's vulnerability or reduced poverty as intended (Amare et al., 2017). Due to the fact that women's labour is typically underappreciated and limited to the home or domestic sphere, a large portion of it is also underestimated (Abdurezak, 2020). Due to unequal opportunities, women have lagged behind men in all areas of self-advancement (Zewdu, 2021). The researchers recognise that previous research has

concentrated on the contributions of entrepreneur women and factors impacting their performance in other parts of the country, even though no studies have been conducted in the study region of this subject.

Conceptual framework of the study

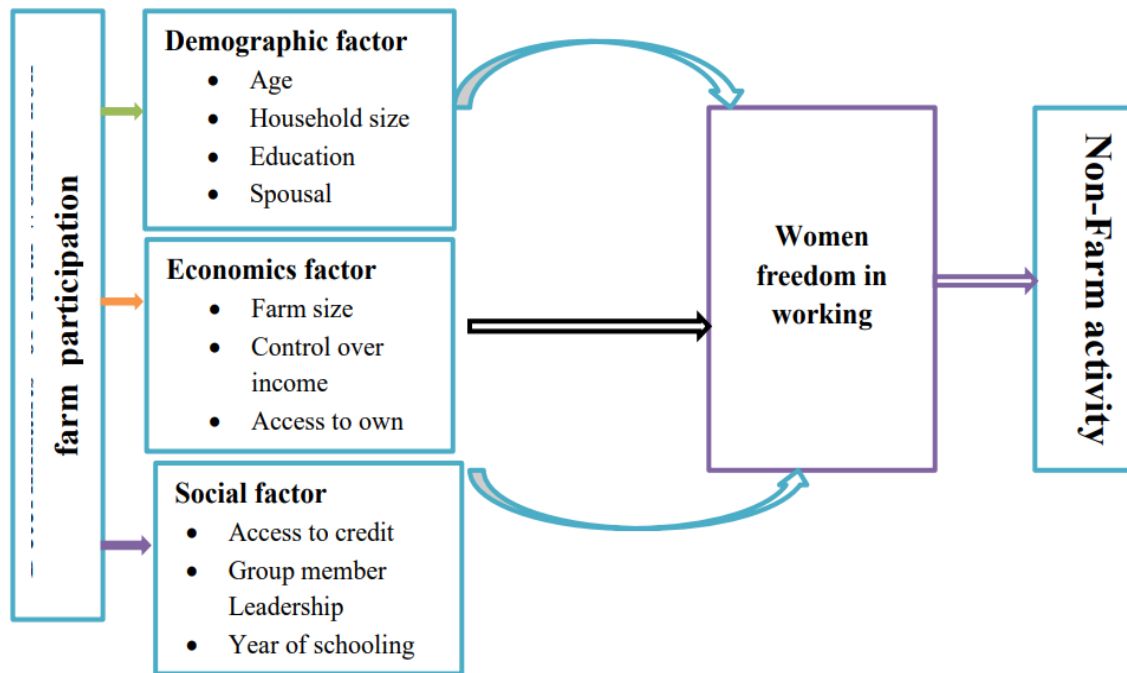In the following Figure 1, the relationship between dependent and independent variables is presented as follows:-

Figure 1 *Conceptual frame work*
Source : *Own developed from the review of (Endiris et al., 2021; Seng, 2015).*

MATERIALS AND METHODS

One of Oromiya National Regional State's eighteen administrative zones is Horo Guduru Wollega Zone. 315 kilometres west of Addis Ababa is Shambu, the administrative zone's capital. There is one municipality at the town level and twelve administrative districts. The Central Statistical Agency (CSA) of Ethiopia's 2013 population and housing predictions indicate that there are 511,737 people living in the zone overall, with 50.1 percent of them being men and 49.9 percent being women. Roughly 89% of the people in the zone live in rural regions (Ahmed et al., 2018). The Horo Guduru Wollega zone has 712,766.22 hectares in total. The highlands make up 37.9 percent of the agro-ecology, the mid-highlands, 54.75 percent, and the lowlands, 7.86 percent (HGWOARD, 2022). [2]. The dry season is from October to April, and the wet season is from May to September. Although it varies from year to year, the region has a rainy season that lasts for roughly five months. The two main types of soil in the zone are sandy and clay (Danso et al., 2020). Major crops

grown in the region are pulses, maize, wheat, and teff. According to the Horo Guduru zone 2021 annual report, during the 2020/2021 cropping season, roughly 235,262.8 hectares of the cultivated area were planted with cereal crops, over 56,133 hectares with oilseeds, and 17,016.44 hectares with pulses. In this zone, raising livestock is essentially an equally significant economic activity. This suggests that raising cattle and producing crops are the main sources of income for rural people (Astatike , 2019).

Non-farm activities in the study area

Although there are few economic options outside of agriculture in the majority of the nation, including the study area, many rural households do not rely solely on agriculture for their income (Adeoye et al., 2019). For the majority of households, farming is the most significant and dependable source of income, according to Astatike and Gazuma (2019). Nonetheless, non-farm revenue has emerged as a significant revenue stream for rural households (Table 2). In the Horo Guduru Wollega zone, the term "farm wage" is frequently used to refer to a range of temporary agricultural labour arrangements that are compensated in cash or food crops (for labour that is not educated). The most typical form of daily labour work on commercial estates owned by less impoverished smallholder farmers is agricultural wage employment, which entails field preparation, seeding, weeding, harvesting and threshing (Abbeam et al., 2020).
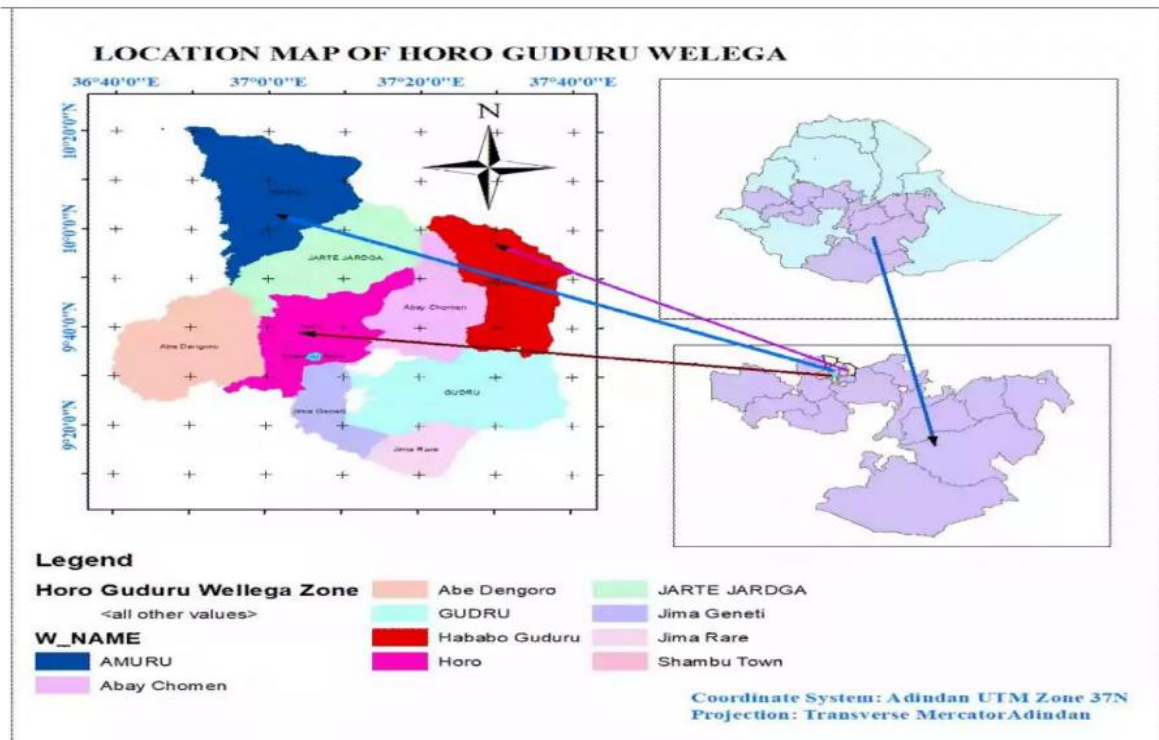

Figure 2 *Map of the study area*

Formal sector employment is another source of income for the farm and is an official position that comes with a pay or wage. It involves performing various jobs such as

gardeners, messengers, watchmen, and others in a government institution (such as a primary school or clinic). Another significant source of income for the rural households in the study area is small-scale businesses. These include constructing and carpentry, as well as trading animals and firewood. Some people also work from home doing various handcrafts such as knitting, leatherworking, metalworking, ceramics, and weaving (Astatike & Gazuma et al., 2019).

Research design

It's common knowledge that using secondary data sources to analyse research can save costs and time. Kothari (2004). Nonetheless, secondary data sources were unsuitable for our study for two key reasons. On the one hand, Horo Guduru Wollega Zone has escaped the attention of researchers, and there may not be enough time series or secondary data available for study. However, qualitative data was the most important kind of information the researcher required for this investigation.

In order to gather this data, a cross-sectional research design was chosen so that, through in-person interviews with stakeholders, the researcher could describe the most recent and accurate information regarding consumption expenditure, household characteristics, farm/non-farm linkages, and the determinants of non-farm from primary data rather than secondary data. This model was used in this study project and contains both qualitative and quantitative data, including the production year of 2021–2022.

Sources of data and methods of data collection

Primary sources of data were used in this investigation. Secondary data was gathered from relevant district offices (such as the Central Statistical Authority, the Zonal Agricultural Office, and the District Agricultural Office) as well as from public and unpublished sources to augment the original data. For this study, only qualitative data were gathered. Primary data includes comprehensive details about the features of farms, households, socioeconomic groups, and demographics as well as the use of agricultural inputs, output, and production issues. It was gathered from 383 carefully chosen sample farm homes through the use of structured and semi-structured questionnaires completed by proficient local language-speaking data collectors who have received training.

Sample size determination and sampling procedure

Since it is anticipated that rural households may not be able to read and write on their own, the interview questionnaire was completed by professional data collectors. Furthermore, an interview questionnaire was translated into Afan Oromo to facilitate comprehension and ease of use for both data collectors and respondents (Table 1). The study's target population consisted of rural family heads in the zone's chosen sample woreda. Data was gathered through an interview schedule from a sample drawn from each of the three study area woredas—Hababo Guduru, Horo, and Amuru district.

Table 1

Data of population and households in Horo Guduru Wollega by woreda

S.N	Woreda	Male head	Female head	Total household heads
1	Jima Genet	9988	1518	11506
	Table 1. continues...			
2	Abay Choman	2782	351	3133
3	Choman Guduru	4108	466	4574
4	Amuru	6436	1450	7887
5	Jima Rare	12096	1405	13501
6	Jardaga Jarte	10326	9005	19331
7	Abe Dongoro	14337	1653	15990
8	Horo woreda	4903	800	5703
9	Horo Buluk	6940	712	7652
10	Guduru	9408	625	10033
11	Hababo Guduru	6073	655	6728
	Total	87,397	18,640	106,038

Source**:** Horo Guduru Wollega zone plan and economic cooperative office (2022)

When the population is big and finite, sample size determination is the most often employed formula for a questionnaire analysis. To

analyse proportion, Kothari (2004) states that a representative sample is required. The equation is:

$$n = \frac{Z^2 pqN}{e^2(N-1)+Z^2 pqN} \qquad (1)$$

When we apply the formula

$$n = \frac{(1.96)^2 0.5(0.5)106,038}{(0.05)^2(106,037)+(1.96)^2 (0.5)(0.5)} =$$

$$\frac{101,838.8952}{266.0529} = 382.7 \approx 383$$

Sample size of Horo Woreda $= \frac{5703 x 383}{20,318} =$ 108 household heads

Sample size of Hababo Guduru Woreda $\frac{6728 x 383}{20,318} = 127$ household heads

Sample size of Amuru Woreda $= \frac{7887 x 383}{20,318} =$ 148 household heads

Table 2

Total sample of households allocated to the selected woreda

S.N	Sample selected woreda	Total rural household heads	Sample household heads
		Total	Total
1	Horo district	5,703	108
2	Hababo Guduru district	6,728	127
3	Amuru district	7,887	148
	Total sample	20,318	383

Source: *own computation from HGWPECO (2022)*

As a result, data was gathered from these 383 households utilising a multistage sampling method. When compared to other western regions of the country, the Horo Guduru

Wollega zone in the Western Oromiya region was specifically chosen for the first stage due to its high landlessness and dense population (Ahmed & Mesfin, 2017). Because the socioeconomic and cultural features of all the districts in the Horo Guduru Wollega zone are nearly identical, three districts were chosen through systematic selection in the second stage (Table 2). As a result, the woreda was methodically chosen from the list of twelve districts at intervals of four, beginning with the fourth. Horo, Hababo Guduru, and Amuru were chosen by using the fourth woreda as the initial sample portion to be chosen from the list of all districts. In the districts of Horo, Hababo, Guduru, and Amuru, there are 11, 12, and 21 rural kebeles, respectively; the total number of kebeles in these three districts is 44. All 44 kebeles can receive the sample households that have been determined. However, convenience sampling based on Ahmed et al. (2018) was used to identify 16 kebeles from the total 44 kebeles due to time and financial restrictions as well as the need to keep the data simple.

In order to mitigate the bias associated with the convenience sample problem, four kebeles each from Horo district, Hababo Guduru district, and Amuru district were proportionately assigned to each woreda. Using the total number of households in each sampled kebele as a base, sample households were proportionately assigned to each of the chosen kebeles in the third step. Since every home had an equal chance of being chosen, a basic random sampling technique was utilised in the fourth stage to choose a total of sample households from the list of households in each kebele using a random number table. As a result, the foundation of this study was the application of both non-probability and probability sampling methodologies. In every kebele, the proportionate sample was:

$$n_{ki} = \frac{N_{ki}}{\sum N_k} X n_k \quad (2)$$

Where   i=1,2,3….list of each kebele and k=represents name of each kebele
nk=total sample of household head in a given district that means 108 for Horo Woreda,127 for Hababo Guduru and 148 for Amuru Woreda .

Econometric Model for Women's Participation in Non-Farm Work

Members of rural families headed by women participated in the survey to provide information on their involvement in non-farm work activities. The study employed STATA Version 15 software for Windows to conduct statistical analysis on the participation of women and the actions of household members in non-farm labour. Women's involvement in non-farm pursuits promotes economic growth. Spending on children increases when transfer payments are given to women instead of their husbands. Spending on higher education increases the accumulation of human capital, which spurs economic growth (Abdurezak and Adinan, 2020).

The binary logistic regression model was used to show the functional shape and relationship between the factors that influence rural women's economic empowerment and the dependent variable after those components were identified. In studies with qualitative components, the logit and probit models are typically selected. The logit and probit models

are almost the same, and the model used is subjective, according to Gujirat (2003). Given their statistical resemblance, it is challenging to select between the two models. Neglo et al. (2021) note that the logistic distribution (logit) offers certain advantages over the other methods, including the ability to analyse dichotomous outcome variables in a meaningful way, external flexibility, and mathematical simplicity (Williams et al., 2005).

Methods of data Analysis

The factors that contribute to rural women's non-farm engagement were examined using two methods. The initial strategy involved comparing participants and non-participants in non-farm activities using descriptive statistics like mean and percentage. The logit model was the second method used to analyse the qualitative response about participation or non-participation. The dependent variable in a logit model is y=1 for participation and y=0 for non-participation. The data from the study were analysed using the STATA Software package version 15.0 in order to produce a reliable result. The demographic, economic, and social independent variables used in this study are listed in Table 3.

Table 3

Lists of dependent and independent variables

Variables	Definition of variables	Expected sign
Dependent variable		
Participation to non-farm	It is dummy variable that tak a value y=1 for participant and y=0 otherwise	
Independent variables		
Family size	Family Size; It is the total numbers of household members and the major determinants of consumption expenditure in the household.	-ve
age	Age; is continues and negatively affect farm participation	-ve
Education	Schooling year of rural household .It is continuous in years of attending school by family member	+ve
Membership to iqub	Membership of iqub; which dummy variable that takes y=1 if membership and y=0 if not membership	+ve
Land size	The total farm land owned by female heads in hectare (Ha)	-ve
Access to train	Access to train; This is dummy variable that takes training and zero otherwise implying to whether households have taken training on non-farm work activities or not.	+ve
Distance from market	Distance of household location from the market area(town)or main road(Continues variable)	-ve
Membership to idir	Membership of idir "it is dummy variable that takes a value y=1 for membership and y=0 otherwise	+ve
Community participation	It is a dummy variable that takes a value Either 1for participant and 0 otherwise	+ve
Access credit	Access to credit from financial institutions (dummy variable)	+ve
Property ownership	Ownership of mobile phone by household heads(dummy variable)	+ve

RESULTS AND DISCUSSION

The study's goal was to classify rural women's non-farm participation according to socioeconomic and demographic characteristics. This is because rural women's backgrounds, social and economic traits, and the combination of their non-farm and rural pursuits differ. Therefore, in order to provide basic information on the respondent's age, marital status, family size, education level, household status, and land holdings, a description of their origins and socioeconomic characteristics is essential.

Age, family size, and family status

The involvement of women in non-agricultural pursuits is essential for understanding political, social, and economic issues. Women's involvement in non-agricultural activities is essential to the nation's growth and the welfare of families, but it is hampered by a number of ingrained cultural beliefs and practices.The focus group discussions revealed that, other from taking care of the family, cooking, and cleaning, women don't buy or sell property or do home duties like their husbands do. On the basis of this, questionnaires were made for the respondents in the local sample. Table 4 enumerates the problems and obstacles limiting women from engaging in non-agricultural activities in light of these inquiries: There is a statistically significant mean difference in age, education, family size, land area, and distance from the market between farm participants and non-farm participants at the t-value statistically significant level. In contrast, the data indicate that women are more likely to work in non-agricultural fields, own less land, and reside closer to roads and cities. They also have an average education of two years or more.

Table4

Continues Descriptive Data summary (participation of women in farm activities)

Variables	Participants		Non-participants		t-value	p-value
	Mean	Std. Err	Mean	Std. Err		
Age	33.7	0.73	33.2	0.64	-2.64	***
Education	2.2	0.211	0.07	0.018	-10.54	***
Family size	5.2	0.11	6.65	0.17	6.7	***
Land size	0.67	0.66	0.92	0.076	2.37	*
Distance market	9.6	0.28	11.7	0.26	5.78	**

*** $p<.01$, ** $p<.05$, * $p<.1$

Source: Own Computation Result Based on Survey Data (2022)

According to Table 4, women who have a mean age of 33.7 are considered participants, while women who have a mean age of 35.2 are not. This implies that the non-farm

participants and non-participants differ in mean age. Conversely, women who live an average of 6 km out from the city do not own farms. Participants, and non-participants are individuals whose residences are greater than 10 kilometers apart. This explains why women participate in fewer non-farm activities the further away their homes are from each other.

In terms of land holdings, women who own 0.92 ha or more are non-participants, as are those who own small or medium holdings of 0.67 ha or less. According to the descriptive data, women who are landless or have small landholdings are more likely than those who have large landholdings to engage in non-farm activities as extra sources of income (Table 5).

Table 5

Discreet Factors of Women's Participation in Non-Farm Activities

Variables	Participants		Non-participants		t-value	p-value
	Mean	St.Err	Mean	St.Err		
Access to train	0.588	0.34	0.34	0.034	-4.2	***
Access to credit	0.48	0.04	0.09	0.021	-9.12	***
Membership to idir	0.93	0.02	0.72	0.032	-5.76	**
Community participation	0.6	0.02	0.12	0.22	12.9	***
Iqub membership	0.47	0.2	0.38	0.04	2.36	*
Property ownership	0.75	0.03	0.22	0.33	-12.2	**

*** $p<.01$, ** $p<.05$, * $p<.1$

Source*: Own Computation Result Based on Survey Data (2022)*

According to the information in Table 6 above, 6.99 percent of respondents claimed they could manage the household's assets with their spouse, while 93.1 percent said they had no authority over the assets of the entire family. Complete ownership of family property generally grants women the flexibility to pursue non-farm pursuits that increase their income and raise their self-esteem. According to Table 6 above, 71.43 percent of women stated they were more actively interested in other trades than agriculture, while 87.23 percent of men claimed to be actively involved in agriculture. It is evident from the respondents' comments that women are more successful in business and males are more successful in agriculture. Women who have equal control over household assets as their husbands do are free to work in income-producing non-agricultural jobs. The results show that because they have autonomous property responsibility, women who are in charge of the family's property participate in more non-agricultural activities than those who are not.

Table 6

Gender-based resource empowerment

Description	Response		
		Frequency	%
Table 6 continue…			
Do husband and wife have equal power to manage a property?	Yes	23	6.99
	No	306	93.01
	Total	329	100
Who is the strongest in farming?	Men	287	87.23
	Female	42	12.77
	Total	329	100
Who is the best at business?	Men	94	28.57
	Female	235	71.43
	Total	329	100

Source: Own Computation Result Based on Survey Data (2022)

Household Livelihood Practice by Male and Female

Should both partners be able to enjoy equal autonomy in domestic affairs, they will be able to collaborate without creating any barriers based on gender. There is no legal or regulatory task that spouses are required to perform for the family. Nothing is viewed with disdain as the labour of women or with admiration as the work of men. A gender-neutral work role does not exist, with the exception of what is increasingly typical in society. Not only can family life prosper when a husband and wife collaborate, but the love that exists within the family grows as well. However, data gathered from respondents indicates that gender segregation of labour has long persisted in families. According to the answers, women are expected to work in the kitchen and with children, while men are responsible for splitting up labour on the farm and in the agricultural fields. This indicates that the research area has a gender-based job segmentation. This indicates that women lack decision-making strength or that they choose to follow their husbands' lead instead of deciding for themselves how to accumulate wealth alongside their partners. All agricultural fieldwork, such as preparing the soil for seeding, removing trees from the field, and gathering grain into the barn, is traditionally attributed to the spouse.

It was considered a blessing that women should handle all of the traditional household duties. Stated differently, women were seen to possess divine abilities for doing domestic duties such as childrearing, cooking, and tending to the family. The study's findings demonstrate how historically, positions assigned to men and women have been viewed as divine or as uniquely divine talents.

Table 7

Decision-making processes in the home and the sharing of spousal responsibilities

Description		Frequency	Percentage
Worked exclusively by women			
Raising a child, food preparation		213	64.74
Selling local beverages like *tella, katikala*, coffee, tea		201	61.09
Petty trade like selling butter, *shiro* powder, salt, pepper		252	76.6
weaving and various crafts such as pottery, home decorations		198	60.18
women's hair salon jobs		17	5.17
outdoor agricultural activities like weeding		207	62.92
worked exclusively by men			
Plowing, sowing, harvesting, and threshing		299	90.88
cutting down and clearing various trees from agricultural land to make it suitable for agriculture		271	82.37
Control, and manage the general family property and sell or exchange it without anyone's permission if required		261	79.33
In your household who usually makes decisions about large household livestock purchases?	Male	259	78.72
	Female	70	21.28

Source: Own Computation Result Based on Survey Data (2022)

The Table 7 above makes it evident that women were discriminated against while they worked to get riches or money. In contrast to women, who are less likely than men to make decisions on family property, husbands are typically the primary decision-makers on an existing property. To support their family, families in rural areas either work "male" or "female" jobs. The descriptive data result that is shown above indicates that women are empowered to engage in non-farm activities that generate additional income, like selling locally produced alcoholic beverages and small businesses, as well as household chores like cooking, child care, and property protection, as well as agricultural activities like ploughing and collecting trash from the fields.

The ruling body should treat this matter seriously in order to stop such problems from spreading throughout society and enable husband and wife to collaborate and work together to lead prosperous lives. Governments and non-governmental organisations can utilise this study as a springboard and focus on the necessary studies to investigate gender policy in detail and determine how best to address the issue of gender equality going forward. Women's ability to handle resource protection, both indoors and outside, is reportedly limited, according to poll respondents.

Econometric Results of Women's Participation in Non-Farm Activities

Using a binary logistic regression model, a set of explanatory characteristics and non-farm participation were found to be associated. In the social sciences, binary logistic regression has become the go-to technique for predicting dichotomous outcomes because of its higher degree of flexibility compared to other models. In order to ascertain the relationship between the dependent variable (women engaging in non-farm activities) and the independent factors (demographic, socioeconomic, and institutional)

impacting women's engagement in non-farm activity in the research area, a binary logistic model was employed.

Eleven explanatory variables were selected, as indicated in Table 8 below, to help explain the dependent variable. A few factors impacting the dependent variables are age, education level, family size, amount of farmland, access to credit, membership in idir and iqub, involvement in the neighbourhood, personal property ownership, and distance from the market.

Discussion of the Result (Marginal Effects of the Logistic Result)

The marginal effect, not the odds ratio, was utilised to interpret the logit finding of women's non-farm participation. This means that odds ratios are frequently mistaken as being relative because marginal effects are a more meaningful approach to communicate results as divergences in probability than odds ratios and relative risks.

Age: The results of the binary logistic regression show that, at the p =0.01 statistically significant level, the age of the women has a significant effect on the decision of the female heads to participate in non-agricultural activities in all conditions. A one-year rise in age results in a 1.3 percent drop in the risk of not farming. This conclusion is most likely explained by the possibility that women revert to motherhood and have more children after the age of 35. They consequently have a lower propensity to participate in non-farm pursuits.

Education: The binary logistic's marginal effects The findings also showed that a one-year increase in the schooling year of female heads was associated with a 15.8% rise in the chance of non-farm participation. According to one perspective, women who have completed their primary and secondary school or higher participate in more non-farm activities than illiterate women do. Holding all other conditions constant, the outcome was statistically significant at 10% in every instance. The results of this study showed that women who had completed primary education or above had a much higher likelihood of working outside the farm. This result is in line with Tshabalala's (2020) research, which shows that people with more education or training opt for completely non-farming pursuits or a mix of farming and non-farming pursuits. This is primarily because these individuals are better equipped for formal and non-farming employment.

Table 8

Logit results of women non-farm determinants (Marginal effect) Logistic regression

parnf	Coef.	dy/dx	Z	P>/z/	Average(X)
Age	-.053***	- 0.013	- 3.150	0.002	34.407
Education	0.66*	0.158	2.280	0.022	1.081
Family size	-0.309***	-0.074	-3.860	0.000	5.961
Access to train	0.76**	0.181	2.410	0.016	0.478
Access to credit	1.08***	0.241	2.980	0.003	0.282
Idir	1.73***	0.405	4.480	0.000	0.820
Commu. participatio	1.33***	0.294	3.280	0.001	0.326
Iqub	0.94***	0.221	2.780	0.005	0.467
Own. HHProperty	1.5***	0.342	4.510	0.000	0.470
Land size	-0.44*	-0.106	-2.480	0.013	0.801
Distance from market	-0.127*	-0.031	-2.930	0.003	10.723

Distance to market: If the women's residence is far from the market area, there is no convenient facility for them to go and trade whenever they want. If their residence is close to the marketplace, they can go and do business with little transportation cost. On the other hand, if their residence is far from the market, they will be exposed to social problems and transportation problems, and their decision to participate in non-agricultural activities will be weak. Table 8 shows that distance to market affects women's non-farm decisions negatively, which is statistically significant at a 1 percent level of significance. By considering other variables constant and increasing the residential area of women by 1 km from the market area, the probability of women's non-farm participation decreases by 3.1 percent. The results of this data imply that women are often less likely to make decisions to travel long distances to trade or work because they are responsible for household chores and everything else.

Access to train: This variable positively affects women's non-farm participation at a statistically significant level of 5 percent. Considering other variables remain constant, access to trains increases the probability of a non-farm decision by 18.1 percent. An interpretation of this result is that access to training about non-farm activity is a motivating instrument that gives awareness to rural heads. As a result, those who have access to trains make better business decisions than those without.

Society's attitude towards women

Table 9 below illustrates how women's involvement in social matters such as idir, iqub, and kebele, or district leadership, contributes significantly to the empowerment of women in non-farm decision-making. Women do not, however, actively participate in social events. The way society views women hinders them from participating in social matters. One type of social participation is taking part in leadership activities. Nonetheless, the local community claimed that women were not capable of handling leadership or administrative roles. The researcher saw that proverbs of all kinds were being used to tell women that they were not capable of doing so. Proverbs such as "Beekumsi dubartii gara golaatti" are one example. This mentality is shattering their bravery, forcing women to live fearlessly and disobey social norms. In the studied area, women's involvement in political and administrative matters is extremely low. They are not political leaders or party members in the current villages. This has to do with how husbands and males oppress or put pressure on women in society.In reference to women's engagement in local institute ons, data indicates that while there has been progress in the number of women in these organisations, 56.3 percent of respondents said they were iqub members and 67.9 percent said they were idir members. The findings show that although women were expected by the society to be Idir members for social reasons, they were choosing to join Iqub since it was a cost-saving measure.

Table 9

Empowerment of Women in Different Work

Activity	Frequency	Percentage
Membership to iqub	101	26.3
Membership to idir	260	67.9
Woreda/kebele house of people representative	22	5.8
Total	383	100
In what type of activity do you participate?		
Non-agricultural activities on their own	69	17.93
Only working at home	314	82.07
Total	383	100

Source: Own Computation Result Based on Survey Data (2022)

Women's freedom of movement outside the house: Active Rural women don't have to worry about their husbands when they go to conduct various business-related tasks. A wife is empowered to carry out her duties when her husband has total faith in her and grants her the freedom to work wherever she pleases. When asked about their involvement in non-agricultural activities, 17.93% of the women in the research region stated they did so on their own, while 82.07 percent indicated their husbands forbade them from leaving the house. This illustrates how, despite having to travel long distances to work outside the home and make a wage, women are nevertheless abused by their husbands.

FGD findings

After lengthy conversations with the FGDs, it was determined that the largest obstacle preventing women from engaging in non-farm activities was their workload. The study area's discussion result indicates that although women labour extremely hard to maintain their families, their workloads remain hidden from their spouses. In plain and practical terms, pregnant women are observed working in the fields or taking care of the home while carrying their unborn children on their backs or tummies. In spite of all of this, women provide for their families by cooking meals for the whole family at home while staying up late, working in the fields, and engaging in non-farm pursuits like starting small enterprises or selling well-known local beverages like "farso" and "araqee" to increase family consumption. According to the data collected from the participants, women who handle a substantial amount of household chores do not partake in non-agricultural pursuits.

To work in non-farm occupations like non-agricultural ones, women must first have a partner with whom to share the burden of labour. If not, their employment options will be restricted to domestic work, and their circumstances will prevent them from engaging in or performing non-agricultural activity. Compared to women who have leisure time but are unable to participate in a wide range of commercial activities, overworked and hardworking women are less likely to participate in non-agricultural activities and, as a result, are more likely to

experience stress. But as their free time grows, so are the opportunities for them to work outside the farm. The results show that women with more spare time participate in non-agricultural activities more frequently than those with heavy workloads.

Isolation and insults: The primary barriers to rural women's non-farm engagement in the study area were identified by the sample respondents. Given this, the challenges or restrictions were as follows: The way society views women: The long-standing inferiority of men towards women in society was the social attitude towards women. It was difficult to measure and describe these attitudes because they have long been deeply embedded in the community, but a Likert scale was used to ask the respondents questions. Consequently, the questionnaire presented in Table 10 below was distributed to the respondents.

Table 10

Social Factor of Women's Non-Farm Participation

The description of the question	Frequency	Percentage
Women are equally participating in farm and non-farm activities with men		
Strongly disagree	123	32.11
Disagree	91	23.76
Neutral	17	4.45
Agree	103	26.89
Strongly agree	49	12.79
Total	383	100

Source: Own Computation Result Based on Survey Data (2022)

As shown in Table 10 above, more than half of women have no role in social affairs participation. This was due to the negative attitude of men toward women. Discussion in the FGDs indicates that the broad ideas expressed about the issue of attitude towards women included proverbs that touched on women's courage, like "Dubartiin dheertuu malee beektuu hinqabdu," meaning "a woman is tall but not wise." On the other hand, it was proverbial to prevent men from cooperating or helping their wives by saying things like "a man who goes on a woman's message does not go slowly". As a result, to increase women's non-farm participation, the community and government institutions work together to eradicate such negative attitudes toward women.

Marriage system: The main social pressure on women was the marriage system. Women are not free to marry the husbands they love or the husbands they love to live with. Despite this, women have no right to object to this issue, even if their husband marries a second wife after marriage. If a husband asks to live with a second partner, the family uses a legend that "a woman is ignorant but at home" because it is common in society. From Table 11 below, 21.88% of women's husbands have an additional wife, and 78% of the respondents reported that their husbands have no additional wives.

Table 11

Marriage practices in the study area

Description		Frequency	Percentage (%)
Does your husband have an extra wife?	Yes	72	21.88
	No	257	78.12
Total		329	100

Source: Own Computation Result Based on Survey Data (2022)

The evidence in Table 11 above shows that 21.88 percent of male family heads have two or more wives. This condition not only creates problems in family relationships but also puts the future of the children in danger. Local slang refers to children born from two wives as "ijoollee masaanuu." The word "masaanuu" means rivals or haters of each other. This means that the family lives in an atmosphere of hatred rather than brotherhood. On the other hand, according to the FGD discussion, those who live with only one wife have better respect and love for their family than those who have more than one wife. Thus, a husband with two or more wives does not have a good life, and women in such a lifestyle do not have the same participation in non-agricultural activities as single parents.

Because the husband is dividing the existing property into two or more parts to support two or more wives, the start-up capital for these women to engage in non-agricultural activities was difficult for them. This system discourages the participation of women in non-farm activities.

Lack of social security: Women in the research region who participate in non-agricultural occupations also suffer from this social obstacle. Numerous craft workers have encountered social security from locals without any solid justification or doubtful belief. 19.45% of the respondents who were asked this question reported threats from the local craft workers in this regard. Craftsmen like potters were being rebuffed by the neighborhood by being referred to as "Tumtuu" to break their ties, while tanners were being called "Faqii" to dissuade them from carrying out their professional duties.

Women who work in this cottage industry stop participating in non-agricultural pursuits out of concern for environmental and social shame. The prohibition was not only offensive, but it also prevented their sons or daughters from getting married in the community because of the craft they do. However, this social insecurity issue was undesirable since the name of the insult will be passed down from generation to generation. Even though handicrafts have the power to support low-income workers quite well, these artisans were discouraged, however, by the locals' reprimands.

Figure 3 *Sample of handcrafted work by women*
Source: Taken from Horo Woreda of the sample respondents

They treat their kids unfairly, prohibiting them from marrying and treating them as members of lower social classes, etc. People are prevented from acting and changing their life by these unethical behaviours. They also constituted a major economic problem for the country that necessitates a specialist inquiry. Most non-agricultural employment improve the quality of life for families. Rural family life revolves around non-farm activities, which should not be disregarded and should receive complete attention from all parties involved. Overall, the results show that one of the primary obstacles to handicrafts, which provide a livelihood for rural farmers and pose a major obstacle for women to participate in non-agricultural activities, was social insecurity in the research region (Figure 3).

Information availability: When women are informed about local and national events, legislation, and their rights, they are better equipped to advocate for their rights. This is a result of their prompt access to up-to-date knowledge. The fact that "women despising" the actual procedures in the research field keeps women out of many social organisations and administrative roles. Information can be obtained by the telephone, radio, and television. 20.67% of the sample respondents claimed to have gotten fresh and current information, compared to 79.33% who claimed they did not have access to any current information. This indicates that women who participate in non-agricultural pursuits are more likely than those who do not to be aware of current affairs.

CONCLUSIONS

In both agricultural and non-agricultural endeavors, rural women play a significant role. Reducing the disparity between genders' assets boosts their self-worth and productivity. Independent working women provide greater income for their families since they are not subject to societal pressure or their spouses. Women handle the majority of home chores in rural areas. Spouses are not allowed to participate in high-earning activities for women. Some women are employed in wage labour, petty trade, animal sales, vegetable and

fruit sales, chicken farming, and hairdressing, among other small businesses. The factors that affect women's involvement in income-generating activities include age, family size, land size, market distance, and loan availability.

ACKNOWLEDGMENTS

The authors are thankful to all who participated in the research work on one way or another.

DECLARATION

The authors declare that there is no competing interest.

DATA AVAILABILITY

Data will be made available on request.

REFERENCES

Abbeam, D.G., Dagunga, G., & Ehiakpor, D. S. (2020). Rural non-farm income diversification: implications on smallholder farmers' welfare and agricultural technology adoption in Ghana. *Heliyon*, *6*(11).

Abdurezak, F., & Ahmed, A. (2020). Impact of Non-farm Activities on Wellbeing of Rural Household, the Case of Kersa District, Eastern Hararghe Zone, Ethiopia. *Humanit. Soc. Sci.*, *8*, 182.

Adeoye, I. D., Seini, W., Sarpong, D. B., & Amegashie, D. (2019). Off-farm income diversification among rural farm households in Nigeria. *Agricultura Tropica et Subtropica*, *52*(3-4), 149-156.

Ahmed, M. H., & Mesfin, H. M. (2017). The impact of agricultural cooperatives membership on the wellbeing of smallholder farmers: empirical evidence from eastern Ethiopia. *Agricultural and Food Economics*, *5*(1), 1-20.

Ahmed, M. T., Bhandari, H., Gordonville, P. U., Quicoy, C. B., & Carnaje, G. P. (2018). Factors affecting extent of rural livelihood diversification in selected areas of Bangladesh. *SAARC Journal of Agriculture*, *16*(1), 7-21.

Alemu, A., Woltamo, T., & Abuto, A. (2022). Determinants of women participation in income generating activities: evidence from Ethiopia. *Journal of Innovation and Entrepreneurship*, *11*(1), 66.

Amare, A., Simane, B., Hassen, A., & Bantider, A. (2017). Determinants of non-farm livelihood diversification: evidence from rainfed-dependent smallholder farmers in northcentral Ethiopia (Woleka sub-basin). *Development Studies Research*, *4*(1), 22-36.

Asfaw, D. (2022). Woman labor force participation in off-farm activities and its determinants in Afar Regional State, Northeast Ethiopia. *Cogent Social Sciences*, *8*(1), 2024675.

Astatike, A. A., & Gazuma, E. G. (2019). The impact of off-farm activities on rural household income in Wolaita Zone, Southern Ethiopia. *Journal of World Economic Research*, *8*(1), 8-16.

Batool, S., Babar, A., Nasir, F., & Iqbal, Z. S. (2017). Income diversification of rural households in Pakistan. *International Journal of Economics & Management Sciences*, 6(6), 466.

Bayu, E. K. (2021). Investigate the Challenges and Opportunities of Female Headed

Households and Women Farmers in Male-Headed Households in Non-Agricultural Livelihood Diversification Strategies: The Case of Shebel Berenta District, Amhara Region, Ethiopia. *International Journal of Women's Health Care 6 (1): 105*, *118*.

Challa, T. Gebiso, Ashebir Tsegaye Mamo, Aman Nebo Tibeso, and Ibsa Dawud. "Rural livelihood diversification status and determinant factors in Arsi, Ethiopia." *International Journal of Business and Economics Research* 8, no. 1 (2019): 23-30.

Danso-Abbeam, G., Dagunga, G., & Ehiakpor, D. S. (2020). Rural non-farm income diversification: implications on smallholder farmers' welfare and agricultural technology adoption in Ghana. *Heliyon*, *6*(11).

Endiris, A., Brehanie, Z., & Ayalew, Z. (2021). The impact of off-farm activities on rural households' food security status in Western Ethiopia: The case of Dibatie district. *Cogent Food & Agriculture*, *7*(1), 1879425.

Gao, X. M., Wailes, E. J., & Cramer, G. L. (1995). Double-hurdle model with bivariate normal errors: an application to US rice demand. *Journal of Agricultural and applied economics*, *27*(2), 363-376.

Kothari, C. R. (2004). *Research methodology: Methods and techniques*. New Age International.

Neglo, K. A. W., Gebrekidan, T., & Lyu, K. (2021). Determinants of participation in non-farm activities and its effect on household income: An empirical study in Ethiopia. *Journal of Development and Agricultural Economics*, *13*(1), 72-92.

Neglo, K. A. W., Gebrekidan, T., & Lyu, K. (2021). Determinants of participation in non-farm activities and its effect on household income: An empirical study in Ethiopia. *Journal of Development and Agricultural Economics*, *13*(1), 72-92.

Nelson, R. R., & Consoli, D. (2010). An evolutionary theory of household consumption behavior. *Journal of Evolutionary Economics*, *20*, 665-687.

Seng, K. (2015). The effects of nonfarm activities on farm households' food consumption in rural Cambodia. *Development Studies Research*, *2*(1), 77-89.

Tshabalala, P. M., & Sidique, S. F. (2020). Determinants of non-farm enterprise diversification in rural Ethiopia. *Journal of Enterprising Communities: People and Places in the Global Economy*, *14*(4), 495-513.

William et al. (2005). *Macroeconomic Theory and Policy.* (Simon Fraser University (ed.)). Preliminary Draft. https://doi.org/10.2307/2978870

Yizengaw, Y. S., Okoyo, E. N., & Beyene, F. (2015). Determinants of livelihood diversification strategies: The case of smallholder rural farm households in Debre Elias Woreda, East Gojjam Zone, Ethiopia. *African journal of agricultural research, 10*(19), 1998-2013.

Zewdu.A. (2021). Determinants of Participation in Non-farm Activities among Rural Farm Households in Ambo District of West Shoa Zone, Oromia Region, Ethiopia. *Journal of Education and Practice*, *12*(4), 31–40. https://doi.org/10.7176/jep/12-4-04